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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/049,482 | 07/30/2002 | Werner Berger | 266-01US | 3990 |
| 7590 04/01/2004 | | | | |
| Gudrun E Hockett | | EXAMINER | | |
| PO Box 3187 | | RAJGURU, UMAKANT K | | |
| Albuquerque, NM 87190-3187 | | | | |
| | | ART UNIT | PAPER NUMBER | |
| | | 1711 | | |

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/049,482 | Applicant(s) BERGER ET AL. | |
| | Examiner Umakant K. Rajguru | Art Unit 1711 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 20-39 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 20-29 are presented for examination.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:


The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 20, 25 & 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 is indefinite in reciting, " minimally reduced " on line 3 and "bi-continuous" on line 4. How much is minimally reduced? What is meant by bi-continuous? Also what is " a hydrolysis component on PVAC basis"?

Claim 31 is vague because it is not clear what the word "its" on line 2 refers to.

Does it refer to mixture or catalyst?

 Claim 25 is vague since it is not clear what "lower polyfunctional alcohols" mean.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 20, 22, & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5439953).

Ritter describes starch-based materials modified by synthetic polymer compound (abstract). Starch is used at 40 –50% by wt. Synthetic polymer is used 25-40% (col. 5 lines 51-65). Ethylene glycol, propylene glycol, butanediol etc can also be used. They can be considered to read on instantly (claimed) hydrolysis component (col. 6, line 51-65). An extruder is used for mixing of ingredients of the material or composition (col. 6, line 46-48). Several suitable polymers are given in col. 4, line 3-52. Poly (vinyl esters), poly (vinyl acetate) and polyesters are some of them.

It would have been obvious to follow teaching of Ritter and arrive at instant invention.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 20, 22 & 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Ritter et al (US 5439953).

Disclosure of Ritter (above) proves that claims 20, 22 and 24 lack novelty.

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8. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5439953) as applied to claim 20 above, and further in view of Sachetto et al (EP 404723).

Ritter does not mention additives of instant claim 21.

Sachetto discloses composition containing starch and at least one polymer (abstract). On page 13, lines 9-38, various suitable additives that can be incorporated in these composition are mentioned.

Therefore it would have been obvious to include these additives to gain advantage/s of their respective properties like mechanical properties, enhanced flow, color, stabilization etc.

9. Claims 25, 28-31, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5439953) in view of Stepto et al (US 5382611).

Disclosure of Ritter above does not mention acid catalyst of instant claim 25.

Stepto discloses destructerized starch wherein destructureization is carried out using acidic catalysts (col. 4, lines 1-59) at 10^{-6} to 10^{-2} mole of catalyst per mole of anhydro-glucose unit (col. 4, lines 56-58).

Consequently it would be obvious to add the acids (of stepto) to the materials of Ritter during manufacture in order to produce a material with enhanced homogeneity and better flow properties which can be then easily molded into desirable forms & shapes.

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10. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5439953) in view of Stepto et al (US 5382611) as applied to claim 25 above, and further in view of Otey et al (US 3949145).

Ritter and Stepto taken together fail to mention acidic catalyst of claim 26.

Otey describes film based on degradable starch. Dibutyltin dilaurate is used as catalysts (col. 3 lines 51-55).

Hence it would be obvious to add dibutyltin dilaurate as an alternate catalyst of choice in the material of Ritter.

11. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5439953) in view of Stepto et al (US 5382611) as applied to claims 25 and 36 above, and further in view of Anderson et al (US 6231970).

Ritter and Stepto taken together do not mention silicagel.

Anderson describes thermoplastic starch compositions, which contain silica gel (col. 32, lines 6-30).

It would have therefore been obvious to include silica gel in the material of Ritter to reduce or control water content thereby increasing ability of starch to react with polymer.

12. Claim 32 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 32 depends from claim 25. Claim 25 encompasses a method for producing a polymer blend using steps

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(a) and (b). Claim 32 on the other hand encompasses a step of producing the hydrolyzed component. Hence method step of claim 32 fails to further limit the method of claim 25.

13. Claims 32-35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 543953) in view Stepto et al (US 5382611) as applied to claim 25 above, and further in view of Sachetto et al (EP 404723).

Ritter and Stepto together do not mention the hydrolysis of polyvinyl acetate.

Sachetto on page 4, lines 45-48, indicates that polyvinyl alcohol can be obtained by partial hydrolysis of polyvinyl acetate. Therefore teachings of Sachetto offer enough suggestions to one to hydrolyze polyvinyl acetate (in material of Ritter) and use the polyvinyl alcohol so obtained as an ingredient in the material.

14. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al (US 5439953) as applied to claims 20 and 22 above, and further in view of Stepto et al (US 5382611)

Please see item 9 above for gist of this rejection

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to U. K. Rajguru, whose telephone number is (571) 272-1077. The examiner can normally be reached on Monday-Friday from 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on (571) 272-1078. The fax phone

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number for the organization where this application or proceeding is assigned is (703)

872-9306.



U.K. Rajguru/af
January 27, 2004



James J. Seidleck
Supervisory Patent Examiner
Technology Center